

## **Attachment 1 - AFC Background**

### **1. Background**

The Authority is seeking to replace fare collection system inclusive of the payment technologies, processors, gates, etc. for the subways, trains, regional rail, buses and parking facilities with more secure and efficient technologies to improve the control over the operation as well as enhance the customer experience. The new application/project is referred to as “AFC 2.0” or “Fare Transformation.” The goal is to have the new solution operational by late-2026. The Authority has established a project management team to provide direction and control over the development of the strategies, procurement, and implementation. The Authority is responsible for the project team functions.

The new AFC 2.0 system will deploy contactless technologies such as near field communication (NFC) on the fare vending machines and gates which is a different technology than currently deployed. It is anticipated that there will be an increased adoption of mobile devices, again different technologies. To improve the customer experience beyond contactless technologies there are initiatives to change and modify the fare tariffs yielding best rate travel plans etc. through aggregation as well as the sale of MBTA issued fare cards through local vendor outlets. Security technologies such as tokenization and point to point encryption are also key considerations under AFC 2.0.

The AFC 2.0 project encompasses a large scope and proposes many changes in the approach and management of the revenue and fare systems:

- all fare collection hardware and software,
- system development, integration, and testing,
- implementation and transition to full operation,
- card manufacture, supply, retail network and vending,
- interface with acquiring bank and acquiring bank services,
- clearinghouse settlement of funds,
- full responsibility of system operations, settlement, and maintenance for 10 years.

These are complex activities with several factors which can adversely influence the timeline and add complexity to the strategy and implementation of updated payment technologies. In addition, if a different processor is elected to support AFC 2.0 it could potentially have an adverse impact on the support provided by the existing processor relationship for both the MBTA and the Commonwealth of Massachusetts.

In the meantime, the current systems need to be maintained and supported for operation as well as comply with Card Association and security standards regarding payment card transactions until such time as the new replacement solution is fully operational. As such, the upgrade is underway for the existing MBTA fare collection system. It is to be noted that there are some matters related to the existing card (e.g., EMV). There is a very small window between the timeline

for the new system to be operational and the latter. Any material delay with the AFC 2.0 or concurrent projects will impact this matter.

Additionally, the gateway utilized by the current mobile ticket application is being sunset and a replacement gateway identified. The mobile ticket application is also being migrated to a newer version and incorporated with the gateway migration project. Again, any delays in the project will have a material effect on the service. In addition, the mobile parking application requires some updates such as AVS. Parking also needs to do a similar compliance assessment of the FVM existing Data Park equipment. There are constant updates and changes needed in support of the existing application.

The various deadlines complicate the strategy, for instance:

- The roll out of new payment hardware for attended terminals.
- The roll out of new payment hardware for unattended terminals.
- How long will the manufacturer and/or the payment processor support the current payment hardware for attended or unattended terminals?
- How long will it take for S&B to modify and implement the software for replacement hardware? What is the cost?
- What is the financial risk associated with opting out of accommodating the fraud liability shift with a decision to not implementing EMV-compliant equipment or additional security in the current fare collection system. The financial fallout from data breaches and fraudulent activity around debit and credit cards can run into millions. And what is the financial risk associated with a card breach?

Compliance with PCI and Payment Card Association requirements and payment technology solutions are not just consideration for the fare collection system but all vectors for card payments. This also includes mobile, web-based payments and parking. Given the various nature of the potential and required changes to the S&B, Pay-By-Phone and Data Park software, a strategy for assessments and decisions, planning, development, and rollout is essential. The plan and effort are highly technical and time consuming and consider numerous decision points.

More broadly, as the payment card market evolves, the positioning of the various players regarding the monetization of new products will change. For instance, today merchant acquirers and security firms market tokenization products. Both MasterCard and Visa can distribute tokenized cards for a fee. Tokenization products generally are associated with e-commerce, mobile and recurring billing applications to facilitate customer preferences and loyalty programs - all factors for consideration.

The MBTA has entered into a long term agreement with a Systems Integrator for the design, implementation, integration, testing, financing, operations, maintenance and management services necessary to implement a new transportation payment system intended to replace the MBTA's current automated fare collection system with the new Automated Fare Collection System.

Concurrently, the MBTA is updating the existing legacy fare vending machines, devices and software inclusive of payment technologies and processor with a new FAREGO applications (also known as AFC 1.5 or "AFC 2025"). All other parts of

the existing fare collection applications will remain in place until such time as the transition to the Cubic solution takes place and then prior generations of fare applications supporting transit, commuter rail and buses will be decommissioned. Any planned migration for other applications such as parking, para transit, enforcement services, etc. may follow however in the meantime require support. The AFC 1.5 / AFC 2025 deploys new EMV and contactless technologies which differs from the current deployment as well as technologies supporting the acceptance of Charlie Card tickets on approximately 500+ fare vending machines. PCI, security and encryption technologies are also key considerations under AFC 1.5 / AFC 2025.